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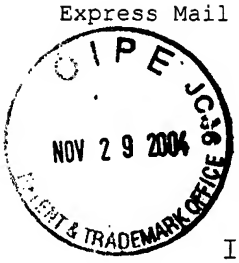

PATENT
Docket No. H 3939 PCT/US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants:	Naumann et al.
Appl. No.:	10/088,059
Filed:	May 29, 2002
Grp./A.U.:	1616
Examiner:	Marina Lamm
Customer No.:	00423
Confirm No.:	6726
Title:	USE OF 2-NITRO-P-PHENYLENE DIAMINE DERIVATIVES AS DIRECT COLORANTS

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Commissioner of Patents
P.O. Box 1450
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APPELLANTS' APPEAL BRIEF

Appellants appeal under 37 C.F.R. § 1.192(a) from the Final Office Action of May 5, 2004. A Notice of Appeal and payment of the appeal fee under 37 C.F.R. § 1.17(b) was timely filed on August 3, 2004. A request for a two months extension of time accompanies this response.

I. Real Party In Interest

The real party in interest in this appeal is the assignee, Henkel Kommanditgesellschaft auf Aktien (Henkel KGaA).

II. Related Appeals and Interferences

There are no related appeals or interferences known to applicants, assignee, or their legal representatives that will affect or be affected by or that have a bearing on this appeal.

III. Status of the Claims

The pending claims are 19, 21-23 and 25-38. The claims appear in the Appendix.

IV. Status of Amendments

There are no outstanding amendments.

V. Summary of Invention

The present invention relates to the use of derivatives of 2-nitro-p-phenylenediamines as direct colorants on keratin fibers. Specifically, what is claimed is the use of 1-(N-cylopentylamino)-2-nitro-4-aminobenzene to dye hair a reddish color.

VI. Issues

The outstanding issues on appeal are whether claims 19, 21-23, 24-26, 28-30, 36 and 38 are unpatentable under 35 USC 103(a) in view of Bil (U.S. 3,632,582); whether claims 27 and 31-34 are unpatentable under 35 USC 103(a) in view of Bil, as applied to claim 23, and further in view of Rose et al. (U.S. 4,900,327); and, whether claims 35 and 37 are unpatentable in view of Bil, as applied to claim 23, and further in view of Grollier et al. (U.S. 4,566,875).

VII. Grouping of Claims

There are two groupings of claims on appeal. Claims 19, and 21-22 relate to a method for coloring or tinting keratin fibers and claims 23, and 25-38 relate to compositions for coloring hair. The two groups of claims stand or fall separately.

VIII. Argument

Independent claims 19 and 23 reflect the limitation that the claimed subject matter is restricted to a subspecies of formula (I) in which only one of R1 to R4 is a C5 ring and X is hydrogen.

Bil discloses hair dye compositions that contain nitro-p-phenylenediamine compounds. The 2-nitro-p-phenylenediamine compound of the reference that is closest to Applicants' cylopentyl (C5) compounds is one in which the cyclic C5 moiety is replaced with a C6 moiety. Even though Bil discloses a C6 substituted nitro-p-phenylenediamine compound that may be used in a hair dye formulation, he does not disclose that this compound imparts a reddish color to treated hair.

Bil shows examples of homologous 2-nitro-p-phenylenediamines. In Example 9, a six carbon-cyclic moiety is shown, N-cyclohexyl-2-nitro-p-phenylenediamine. Further, in Example 11, a four carbon-cyclic moiety is shown, 1-(4-amino-2-nitrophyenyl)pyrrolidine. In the former, the product extracted is identified as being a

"dark olive" powder. In the latter, the product extracted is identified as appearing as "dark metallic" crystals. None of these homologous molecules are described as exhibiting a reddish color. It cannot be inferred from these examples that a 5 carbon cyclic moiety on a 2-nitro-p-phenylenediamine molecule would exhibit such a color.

In *Ex parte Blattner*, 2 USPQ 2d, 2047 (BPAI, 1987), the Honorable Board determined that similar functionality cannot be inferred between 5 and 6 membered cyclic structures. In this case, the reference indicated these homologous molecules exhibited very different results. With respect to Bil, the patentee shows that similar molecules produce differently colored extracts. It is respectfully submitted that it therefore cannot be inferred from the teachings of Bil that Appellants' claimed compound would yield a reddish product.

Since no teaching is present in the reference that suggests that C6 or C4 substituted compounds impart a reddish color to hair, it cannot be implied that C5 substituted compounds would thus provide such a result. The reference is silent with regard to nitro-p-phenylenediamine compounds imparting a reddish tint to treated hair.

The Examiner asserts that "this property" (imparting a reddish color) "is inherent to N-cyclopentyl-2-nitro-phenylenediamine. To establish inherency, though, the

evidence "must make clear that the *missing descriptive matter is necessarily present in the thing described in the reference,*" (emphasis added). *Continental Can Co. v. Monsanto Co.*, 20 USPQ2d 1746 (Fed Cir 1991). It is respectfully submitted that it is impermissible to infer that N-cyclopentyl-2-phenylenediamine would exhibit the property of imparting a reddish color to hair.

"Inherency, ... may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient (emphasis added)." *In re Oelrich*, 212 USPQ 323 (CCPA 1981). Bil does not disclose that even the closest compound to Applicants' formula (I), a cyclic C6 substituted nitro-p-phenylenediamine, can tint hair red. What is clearly absent from the reference is even the slightest suggestion that a cyclic C5 substituted nitro-p-phenylenediame might tint hair red. It is respectfully submitted therefore that Bil lacks the requisite teaching to render obvious the appealed claims.

Claims 27 and 31-34 are rejected under 35 USC 103(a) as being unpatentable over Bil as applied to claim 23, and further in view of Rose et al., U.S. Patent No. 4,900,327. Rose et al. disclose that hair dye formulations can contain various combinations of substantive dyes and primary plus secondary intermediates. However, this reference does not overcome the deficiencies of Bil. The combination of Rose et al. and Bil fails to support the proposition that

Applicants' N-cylopentyl-p-phenylenediamine would impart reddish tones to keratin fibers.

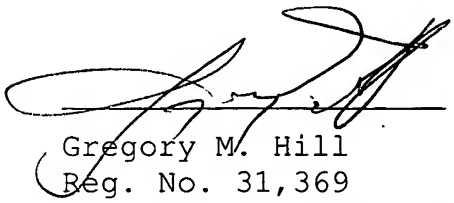
Claims 35 and 37 are rejected under 35 USC 103(a) as being unpatentable over Bil as applied to claim 23, and further in view of Grollier et al., U.S. Patent No. 4,566,875. It is respectfully submitted that the use of this additional reference for its teaching that cationic polymers can be used in hair dye formulations does not overcome the inadequacy of Bil as the primary obviousness reference, as discussed hereinabove. The reversal of this rejection on appeal is therefore respectfully requested.

CONCLUSION

For the reasons stated above, the Examiner's Final Rejection of all or part of claims 19, 21-23 and 25-38 should be reversed. Appellants submit this brief, in triplicate, in support for their appeal. The Commissioner is hereby authorized to charge the Appeal Brief Fee of $340.00 to Deposit Account No. 01-1250. Order No. 04-0451. Should any fees be due for entry and consideration of this

Brief that have not been accounted for, the Commissioner is authorized to charge them to Deposit Account No. 01-1250.

Respectfully yours,



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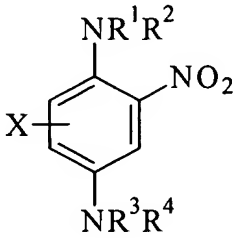
APPENDIX

19. A method for coloring or tinting keratin fibers comprising applying to keratin fibers a coloring or tinting composition comprising at least one 2-nitro-p-phenylenediamine derivative corresponding to formula (I) as a substantive dye:



(I)

wherein R^1 to R^4, independently of one another, represent hydrogen, a C_{1-4} hydroxyalkyl group or a saturated, monounsaturated or polyunsaturated C_5 ring, wherein the C_5 ring is optionally substituted by a C_{1-4} alkyl group, a halogen atom, a hydroxy group or an amino group or combinations thereof, and wherein at least one of the substituents R^1 to R^4 is the C_5 ring;

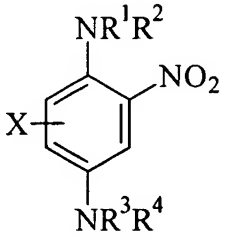
wherein X is hydrogen; and

wherein the 2-nitro-p-phenylenediamine derivative makes a reddish contribution to the overall color of the keratin fibers.

21. The method of claim 19 wherein R^2 to R^4 are hydrogen.

22. The method of claim 21, wherein the compound corresponding to formula (I) comprises 1-(N-cyclopentylamino)-2-nitro-4-aminobenzene.

23. A composition for coloring or tinting keratin fibers in the red region comprising at least one 2-nitro-p-phenylenediamine derivative corresponding to formula (I) as a substantive dye:



(I)

wherein R^1 to R^4, independently of one another, represent hydrogen, a C_{1-4} hydroxyalkyl group or a saturated, monounsaturated or polyunsaturated C_5 ring, wherein the C_5 ring may be optionally substituted by a C_{1-4} alkyl group, a halogen atom, a hydroxy group or an amino group or combinations thereof, and wherein at least one of the substituents R^1 to R^4 is the C_5 ring; and

wherein X is hydrogen.

25. The composition of claim 23 wherein R^2 to R^4 are hydrogen.

26. The composition of claim 25 wherein the compound corresponding to formula (I) comprises 1-(N-cyclopentylamino)-2-nitro-4-aminobenzene.

27. The composition of claim 23 wherein the composition comprises at least one substantive dye different from the substantive dye of formula (I).

28. The composition of claim 23 wherein the composition is free from oxidation dye precursors.

29. The composition of claim 28 wherein the composition is formulated to remain on the hair.

30. The composition of claim 29 wherein the composition is a hair-setting preparation.

31. The composition of claim 23 further comprising at least one primary intermediate.

32. The composition of claim 31 wherein the primary intermediate comprises p-phenylenediamine, p-toluylenediamine, p-aminophenol, 1-(2'-hydroxyethyl)-2,5-diaminobenzene, N,N-bis-(2-hydroxyethyl)-p-phenylenediamine, 4-amino-3-methylphenol, 4-amino-2-((diethylamino)-methyl)-phenol, 2-aminomethyl-4-amino-phenol, 2,4,5,6-tetraaminopyrimidine, 2-hydroxy-4,5,6-triaminopyrimidine, 4-hydroxy-2,5,6-triaminopyrimidine or 4,5-diamino-1-(2'-hydroxyethyl)-pyrazole, or combinations thereof.

33. The composition of claim 32 further comprising at least one secondary intermediate, wherein the secondary

intermediate comprises 1-naphthol, 1,5-dihydroxynaphthalene, 2,7- dihydroxynaphthalene, 1,7-dihydroxynaphthalene, 3-aminophenol, 5-amino-2-methyl-phenol, resorcinol, 4-chlororesorcinol, 2-chloro-6-methyl-3-aminophenol, 2-methyl resorcinol, 5-methyl resorcinol, 2,5-dimethyl resorcinol or 2,6-dihydroxy-3,4--diaminopyridine, or combinations thereof.

34. The composition of claim 31 further comprising at least one secondary intermediate, wherein the secondary intermediate comprises 1-naphthol, 1,5-dihydroxynaphthalene, 2,7- dihydroxynaphthalene, 1,7-dihydroxynaphthalene, 3-aminophenol, 5-amino-2-methyl-phenol, resorcinol, 4-chlororesorcinol, 2-chloro-6-methyl-3-aminophenol, 2-methyl resorcinol, 5-methyl resorcinol, 2,5-dimethyl resorcinol or 2,6-dihydroxy-3,4--diaminopyridine, or combinations thereof.

35. The composition of claim 23 further comprising at least one anionic polymer, nonionic polymer or cationic polymer, or combinations thereof.

36. The composition of claim 23 further comprising at least one surfactant.

37. The composition of claim 23 further comprising at least one conditioning component.

38. The composition of claim 23 wherein the 2-nitro-p-phenylenediamine derivative makes a reddish contribution to the overall color of the keratin fibers.